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EXTIRPATION OF A TUMOR OF THE BLADDER.

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THE following case of myoma of the bladder deserves attention, as the tumor was correctly diagnosticated and extirpated with an unexpectedly good result; also as the method of operating has never heretofore been employed, and, further, since microscopical examination proved the tumor to be of a variety rarely occurring in the bladder.

On June 3, 1874, D. J., a boy twelve years of age, was admitted to the clinic of Professor Billroth, suffering, according to his father's statement, from stone in the bladder. He had been troubled for ten months. The first symptoms were pain after passing water, localized in the glans penis and in the region of the bladder. After a while severe attacks of painful micturition set in, which in the course of ten months became more frequent, and often came on so suddenly that the boy could not prevent a sudden discharge of urine. At the time of admission the patient was obliged to pass his water every ten minutes, a small quantity each time, with frequent and severe pain, partly in the region of the bladder and partly in the glans. Urine was feebly acid, slightly cloudy, but contained nothing characteristic on microscopical examination except a moderate quantity of pus corpuscles and a few cells of bladder epithelium.

On examination a tumor was noticed in the region of the bladder, to the left of the median line. It was to be felt through the abdominal walls; it was apparently about the size of the fist, was hard and somewhat sensitive on pressure, slightly movable, attached apparently to the bladder. Per rectum the tumor was also felt. On introduction of the sound it was found to slide over an uneven surface. On careful examination it was noticed that the beak immediately on entering the bladder was pressed forward; and on attempting to move it from one side to another it always slid over an uneven tumor before reaching the back of the bladder. The combined examination with sound and finger, per rectum, proved clearly that a tumor connected with the back of the bladder hindered the movement of the sound. The consistence of the tumor was that of a fibro-sarcoma, and the size that of a small fist.

The rapid growth of the tumor demanded energetic treatment, as it promised, in the state of suffering in which the patient then was, soon to end his life.

The operation of extirpation was performed on June 15, 1874, in the following way: After the patient was narcotized the lateral incision for removal of stone was made. The finger introduced into the bladder showed immediately that a tumor nearly the size of the fist, with an uneven surface, projected from the posterior wall and extended towards the top of the cavity of the bladder. Owing to its size, it was found impossible to extract the tumor, with the finger, from the perinæum. A supra-pubic incision was then made, without injury to the peritoneum, and to give sufficient room both recti muscles were cut across at their insertion; also a transverse incision into the bladder was made. Professor Billroth soon came to the conclusion, after examining with the finger, that the use of the écraseur was not practicable or desirable, as the tumor possibly might be already adherent to the peritoneum, in which case the latter would have been so injured as to delay healing. He therefore decided to tear the tumor with his finger near its base and to cut out the remainder from the wall of the bladder, after passing a ligature round to check bleeding. The extraction of the torn pieces of the tumor was not so easy, in spite of the large size of the incision, as would have been supposed. In dissecting out the pedicle it was necessary to turn the bladder partly inside out. It then appeared that the tumor took its origin from the muscular coat of the bladder, but had not attacked the outer coat or the peritoneum. The plan was, in case the peritoneum had been opened, to close the hole with sutures. Two arteries were tied, and the ligatures brought out through the upper incision in the bladder.

The wound in the bladder was not closed, as primary intention was not probable after the tearing which the size of the tumor had made necessary. To prevent the flowing of urine over the upper wound (so often the cause of pericystitis after the supra-pubic operation), a drainage-tube was drawn through the bladder and brought out at the incision in the perinæum, in the expectation that the urine would flow through the tube. This proved to be correct, but only when the tube was pushed so high up that it appeared over the symphysis. The walls of the bladder were pressed together by the weight of the intestine; consequently the urine collected in the place where the resistance was the least, *i. e.*, above the bladder. If the opening in the drainage-tube was at this place, the urine ran off by the perinæum. If, however, the position of the tube was altered, the urine collected (as is the case always in the high operation for stone when the wound of the bladder is not closed) until it reached the level of the skin, and flowed over the abdomen, no urine at all passing through the drainage-tube. I mention this apparently trivial circumstance as I became convinced, on observing the course of the case, that the drainage tube especially contributed to the favorable result in the case. This was remarkably good, considering the apparently severe operation. The triple wound caused hardly any reaction — rarely the case even in successful cases of lithotomy. There was no inclination to a pericystitis or infiltration of the subcutaneous tissues, nor the slightest peritonitis. The first two days after the operation the patient's temperature was 37.8° C. (100° F.) and 38.8° C. (101.8° F.). On the third day the evening temperature rose to 39.6° C. (103.4° F.), but on the fourth day it sank to 38.2° C. (100.6° F.) On the sixth day day there was no fever. On the fifth day after the operation, as the wound was granulating well, and there was no danger of infiltration of urine, the drainage-tube was removed. The wound, on the twelfth day after the operation, was so small that the urine came partly by the urethra. The patient was discharged July 18th, perfectly well, wearing a pad to counteract any tendency to hernia.

The tumor was eight centimetres long, four broad. Its largest circumference was eighteen centimetres, its smallest thirteen. It sat directly on the muscular layer of the bladder. Its base was seven centimetres in circumference. There was no ulceration, the surface was smooth, but an epithelial coating was not to be determined without the microscope. From its consistence, its appearance, and that of the cut surface, it would have been regarded as a soft fibroma. But the remarkable friability made it improbable that it was an ordinary fibroma. The friability was as marked as one usually sees in spindle-celled sarcomas only. But a merely superficial microscopical examination was sufficient to determine that the tumor was a myoma.

Myomata of the bladder appear to be very rare. Rokitansky,[1] Virchow,[2] Förster,[3] know either from their own experience or in literature of no case. In a case mentioned, but not fully reported, by Robert Knox,[4] it is stated that the wall of a cyst of the bladder contained bundles of muscular fibres. Liston diagnosticated in a man who had been suffering with trouble in his bladder, a cyst or false membrane, after finding a movable body with the catheter. Liston opened the bladder above the symphysis, and a cyst came into sight, which slipped into Knox's hand. Nothing is stated as to a pedicle. The patient recovered and lived some time after. Knox examined the preparation, which Liston presented to the Museum of the College of Surgeons. The walls of the cyst were found to contain collections of muscular fibres.

With regard to the tumor in the present case, a more detailed exam-

[1] Pathological Anatomy, 3d edition, vol. iii., page 366.

[2] Tumors, vol. iii., 1st half page 124.

[3] Handbook of Pathological Anatomy, vol. i., page 345.

[4] Medical Times and Gazette, 1862, August 2, page 104.

ination showed that it contained in all parts smooth muscular fibres, and in many parts it was almost entirely composed of muscular fasciculi. The muscular cells were isolated, when fresh, with tolerable ease, but were shown still better after maceration in the usual way. They were of different sizes. The nuclei were not distinct in a fresh condition, but in general quite marked in the preparation treated with reagents, and were of the characteristic rod-like form. The contractile substance of the cells was apparently homogeneous. A closer examination of the tumor showed that it consisted not only of the smooth muscular cells and the fibrous interstitial tissue supporting the blood-vessels, but in certain places possessed a structure such as is found in sarcomas and carcinomas. There was found, beside the muscular cells, a great number of cells of different forms and sizes, which were collected between the muscular fasciculi without defined order, or scattered through the tissues in smaller clusters of various shapes. This gave an alveolar structure to the section, which was the more pronounced the closer the cells were clustered, or the more they had the appearance in form and size of epithelial cells.

The tumor is, therefore, to be considered as a myoma from the great numbers of the muscular cells; but in consideration of the collection of connective tissue-cells, as a myo-sarcoma, in places as a myo-carcinoma; accordingly, as a well-marked mixed tumor.

It seems to me that the cyst mentioned by Mr. Robert Knox, with the muscular fibres in the walls, was a myoma which had degenerated into a cyst, and had lost connection with the bladder through atrophy of the pedicle. The examination of the contents of the cyst would have decided the question; but this is not mentioned in the report.

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ON THE TREATMENT OF DIARRHŒA IN YOUNG CHILDREN.[1]

BY J. P. OLIVER, M. D., OF BOSTON.

DIARRHŒA in young children, particularly in those under two years of age, and in the summer season, usually begins very insidiously, and not unfrequently results from a slight chill, or a meal of improper food which excites a little irritation of the stomach and bowels; a protracted and high temperature in a large city (though something more than temperature is concerned in the production of the disease), particularly in overcrowded districts, enters largely into the etiology of the affection.

The irritation when once set up is easily maintained by causes the same in kind (although less in degree) as those which originally provoked it, and a chronic affection is brought about which may become less and less amenable to treatment the longer it continues.

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[1] Read before the Boston Society for Medical Observation.

A child from six months to two years old, living in a large city during the summer season and perhaps in an overcrowded neighborhood, gets some indigestible substance into its stomach or perhaps takes cold, and soon afterwards the bowels become slightly relaxed; perhaps among the poorer classes an inferior quality of milk (skim-milk, slightly sour or adulterated milk) has been given to a child recently weaned; in such instances the purging is neither severe nor of long continuance; it speedily ceases and the child appears to have recovered. The bowels, however, do not return to a healthy condition, and the complaint then is that the bowels are constipated; perhaps two or three days later the child will have two or three large, sour, pasty-looking dejections, more or less slimy from the mucus with which they are mingled, and passed with considerable straining efforts and much apparent discomfort; the dejections may then become more frequent, and occasionally they will be streaked with blood; febrile movements may occur, and there may be more or less abdominal tenderness.

The child grows pale; debility and progressive emaciation mark the unfavorable progress of this affection; vomiting may or may not be a prominent symptom. The vomited matter is sour-smelling, contains a little bile, and the breath is often sour and offensive. The appetite varies; in some children it is unimpaired, in others there is complete anorexia. The disease may terminate in from twenty-four hours to three or four days, or it may eventuate in a chronic affection which will persist for months, and finally the child will be carried off by some intercurrent affection induced by the debility brought about by the diarrhœa; if it terminates at once in death the child grows paler, the eyes become sunken, the pulse quick, thready, and irregular; head-symptoms are developed. The child becomes dull and somnolent, lies with the eyelids partially closed and frequently rolling the head from side to side; convulsions and coma may occur before death, or the child may get better for a day or two, and then the diarrhœa will return; one day he may have no dejection and the following he will have seven or eight; such a state of things cannot go on for a great while without telling upon the child. He becomes thinner and paler, loses flesh rapidly, is unable to sit up, and his condition becomes one of great danger. As night comes on the child grows wakeful and restless. The appetite may be voracious, but the food does not nourish him, and appears hardly changed in the dejections.

The presence of undigested food in the dejections of a young child, especially if that child exhibits evident marks of deficient nutrition, is an indication that the diet is not suitable and that it should be changed.

Whether the digestive weakness be a simple functional derangement or be due to the existence of organic disease, in either case our object is the same, namely, to adapt the child's diet to his powers of digestion, so that the food he swallows may afford him the nourishment of which he stands in need, and may leave as little undigested surplus as possible, to excite further irritation of his alimentary canal. The accurate adaptation of diet is by no means an easy task in such cases; children at the breast and under good hygienic influences are not usually affected with this disease; articles of food from which a healthy child derives his principal support will here often fail altogether; even milk, our great resource in all cases of digestive derangement in children, must sometimes be dispensed with; up to a certain time farinaceous food should be given with the utmost caution. It is not very uncommon to find cases where milk, whether diluted with water or thickened with isinglass, or with farinaceous food, cannot be digested so long as it is taken. The pale, putty-like matter of which the dejections consist, and which is passed in such large quantities, is evidently dependent upon the milk-diet, and resists all treatment so long as that is continued. In such cases, which occur most commonly in children between one and two years of age, the milk must be replaced, either wholly or partially, by other food. The isinglass and milk alluded to above was, I believe, first introduced by Dr. Meigs, of Philadelphia, and in certain cases is much esteemed by Dr. Morrill Wyman of Cambridge. To quote Dr. Wyman, he says: "I have used gelatine with milk for children and adults with delicate stomachs, and I think with advantage; cases of diarrhœa in which the milk is passed in curdled masses undigested, seem to me to be considerably relieved by the combination. My theory is (I do not think much of theories in medicine), that the gelatine prevents the coagulation of the milk, which is then in a better condition to be acted upon by the digestive agents. The proportion of gelatine is about one teaspoonful, to be dissolved in water and mixed with a half pint of milk. This proportion is less than is required for blanc mange."

Liebig's farinaceous food, or Liebig's soup, as it is called, is tolerably well borne in many cases, and it is occasionally advisable to try it. It is well known that flour is incapable, or only partially capable, of digestion in the stomachs of infants, while it is equally well known that at a later period the power to transform starch into sugar and thus digest it is increased.

It is found that this deficiency in infancy is owing to the absence of a ferment in the stomach, and in using Liebig's soup this effect is presumed to be supplied by the presence of diastase in the malt, which, acting as a ferment, causes the desired change in the flour to be effected. That this action will take place to a certain extent with the properly prepared malt flour is certain; but it remains to be proved whether it enables the whole of the flour to be thus transformed.

It is needless for me to give the directions for preparing this soup, as they have already been published in the JOURNAL several times.

The food ("soup" seems a misnomer) is not a substitute for milk, since milk itself is an essential element in its preparation, but it is really an improved mode of giving milk with flour or other farinaceous material. Its real merit consists in adding a material to the flour which will aid the stomach of the child and infant to digest it, and that which remains for investigation is the proof, to be derived from the evacuations, whether such aid has been effectual. This may be ascertained roughly in any case by noticing the size of the stools. A trial should be made with the milk and flour alone, and then with the food, according to Liebig, and if the dejections are as large in the latter as in the former, it may be safely inferred that the food has no special advantage over the use of boiled milk and flour. As the stomach of a child of three years, and probably of one between one and two years, can digest flour and transform it into sugar, this preparation offers scarcely any appreciable advantage to them over the long-established one of well-boiled milk, flour, and sugar. When cream (or good first-class milk) can be obtained for infants, it is beyond all comparison the best food for them, and no addition of any kind should be made to it; and hence, for the children of the rich and well-to-do classes, Liebig's food is scarcely necessary. As regards cream, Dr. Van Wyck, of San Francisco, says, "For twenty years I have discountenanced the use of diluted cow's milk, substituting properly diluted and sweetened fresh cream, solely on the ground that a nearer approximation to woman's milk can be effected than in any other way known to me; and hence there is less liability to produce injurious effects. Apart from this I think there are often good reasons for using only the cream which rises after the milk has stood some twenty-four hours. Very much of the milk sold in our cities and towns is adulterated in various ways, and in many instances when such is not the case the cows are improperly fed and cared for.

"By using the cream only we avoid, in the first instance, the adulterating materials, and, in the second, we are enabled to give a less quantity of a diseased or abnormal secretion.

"Having obtained a quart or more of the purest attainable milk, set aside for twenty-four hours, and then skim off, but not too closely, the cream. As the cream of cows differs in richness from a number of causes, it is impossible to give in figures the amount of water necessary for the proper dilution. I therefore direct the cream to be diluted with boiling water to an extent that will make it as near the richness of the mother's milk at that period as possible, adding enough sugar of milk to bring it up to the natural standard of sweetness. I prefer the milk sugar to the cane or beet sugar, for the reason that, should acidification occur, we have in the former lactic, whilst in the others acetic acid as a result.

To be as explicit as possible, I should say that with the cream afforded from the milk ordinarily served to purchasers, the following formula will be found very nearly correct: —

	Cream. Parts.	Boiling Water. Parts.	Milk Sugar. Parts.
Child in good health, one week old,	1	11	25
" " " two weeks old,	1	10	25
" " " three to four weeks old,	1	8	25
" " " one to two months old,	1	7	25
" " " three to four " "	1	6	25
" " " four to six " "	1	5	25
" " " eight to ten " "	1	3 to 4	25

"Should this prove too strong, it will be necessary to make a further dilution with, if needed, an alkali, to prevent acidification."

A certain amount of lime-water is generally ordered to obviate this result; but experience has proved that the bicarbonate of potassa is preferable, for the reason that as an antacid it is equally efficacious, while it prevents the formation of so solid a curd, and thereby renders it more soluble.

There is nothing better in the way of farinaceous food than the barley prepared by the Messrs. Robinson, of England. I usually make it according to directions accompanying the article, varying the amount of barley and milk according to the age of the child, character of the stools, etc.

Whatever be the diet adopted, our object is to keep up the nutrition of the body with the smallest possible amount of irritation to the alimentary canal; and the food, whatever it may be, which will produce this result, is the food best suited to the case; drugs alone will be powerless. The successful adjustment of the diet, an adjustment in which the quality and quantity of food to be allowed for each meal are accurately adapted to the powers and requirements of the patient, is a matter which can be properly learned only by experience.

In all cases, if the patient be a nursing child he should be limited strictly to the breast; or if he have been only lately weaned, the breast should be returned to. If from any reason a return to the breast is impossible, we should try one of the articles above mentioned.

If the child be no more than six months old, nothing should be allowed but milk or some preparation of milk. If the child be very ill, beware of feeding too often, particularly if farinaceous foods enter largely into the diet; if they excite flatulence, or any sour smell be noticed from the breath or evacuations, the quantity of such food should be diminished and perhaps discontinued altogether. Beyond the age of six months, beef tea, raw beef, yolk of an unboiled egg, may be added to the diet. The egg is best digested when beaten up with a few drops of brandy.

If, as before stated, on giving the cream, acidification takes place, give an alkali (potass. bicarb.), and it should be added to the fluid in the proportion of little less than a grain to each fluid ounce, and if curd is found in the excreta the amount should be doubled. It is difficult to overestimate the value of alkaline remedies in the treatment of digestive derangements in children.

In all children, in infants especially, there is a constant tendency to acid fermentation of their food. This arises partly from the nature of their diet, into which milk and farinaceous matters enter so largely; partly from the peculiar activity of their mucous glands, which pour out an alkaline secretion in such quantities. An excess of farinaceous food will therefore soon begin to ferment, and an acid to be formed which stimulates the mucous membrane to further secretion; hence, alkalies are useful firstly in neutralizing the acid products of this fermentation, and secondly, in checking the too abundant secretion from the mucous glands. Potash or soda may be used; of the two the former is perhaps to be preferred, as, being a constituent of milk, the natural diet of children, it may be considered less as a medicine than as a food.

The alkali should be combined with an aromatic; it is important that the latter be not omitted, for this class of remedies is of great value in all those cases of abdominal derangement where flatulence, pain, and spasm, resulting from vitiated secretions and undigested food, are present to increase the discomfort of the patient; such phenomena are usually rapidly relieved by the use of these agents; and the employment of anise-seed, cinnamon, caraway-seed, or even tincture of capsicum, in minute doses, will be found of material advantage in combination with the other remedies which I will shortly enumerate. If called to a child say eighteen months old, with bowel trouble, I usually order cream, or barley, with milk, and give the mother the following prescription, telling her to add a teaspoonful or two of the mixture to each teacup of the fluid: —

℞	Potassæ bicarbonatis	℈j.
	Aquæ cinnamomi	℥ii. M.

If the child be so ill that he takes but a small quantity at a time it may be well to give beef-tea (made in a bottle, or the juice of a steak slightly broiled and squeezed in a lemon-squeezer) in conjunction with the milk; a teaspoonful may be given occasionally, and its digestion will be aided by adding a pinch of saccharated pepsine to each teaspoonful of the juice or tea. In some cases the child should be fed frequently, little at a time, in order to sustain life, but not so frequently, or in such quantity as to give the digestive organs much to do. The object is to give the child just food enough to sustain life till the digestive organs have recovered their tone. It is better that the child should be hungry than have his stomach overloaded. Stimulants may be required, and, in fact, they are always required when the fontanelle becomes much depressed.

If the stools are loose and are passed frequently, two or three grains of subnitrate of bismuth may be given, and if much straining be noticed a drop of tinct. opii deod., or a little Dover's powder will be a useful addition to check the abnormal briskness of peristaltic action.

Enemata of the fluid extract of krameria containing tr. opii deod., are occasionally useful. If an aperient is required, there is nothing better than castor oil, or the tincture rhei aq. of the German Pharmacopœia. The latter is an alkaline tincture and is an exceedingly useful preparation. It is made as follows: —

℞.	Rhubarb	100	parts.
	Borax	10	"
	Potass. carb.	10	"
	Pour upon this boiling water	850	"
	Set aside for fifteen minutes, then add alcohol	100	"
	Then add cinnamon water	140	"

So long as the tongue remains furred, or the dejections acid (litmus paper), the alkali should be persisted with, and the aperient may be repeated every third morning.

Alteratives (calomel, etc.) are in these cases of little value. It is useless to stimulate the functions of the liver. Under the use of antacids, aromatics, etc., food soon begins to be digested and the appearance of the stools becomes more healthy.

As soon as convalescence is fairly established, iron and cod-liver oil may be given. To ascertain whether the child is actually gaining, it will be well to have him weighed as often as once a week.

This treatment, when reviewed, may to some seem like hyper-medication; but all that we advised are in reality food with the exception of the bismuth powder and the aromatic.

The alkali, pepsine, and stimulant, are no more medicine than milk, barley, and beef-tea.

In all these cases, and indeed in all cases where a special diet is recommended for children, a dietary should be written out by the medical attendant; not only the kind of food but the quantity to be given for each meal, and even the hour at which the meal is to be taken, should be duly set down, so that no excuse may be available for neglect or misapprehension. It is upon the judicious arrangement of food that the recovery of the child depends, and when the diet is properly selected the exact medicine to be ordered becomes a matter of comparatively secondary importance.

After an attack of diarrhœa acid preparations are advised, such as the pernitrate of iron with dilute nitric acid, in conjunction with cod-liver oil. The sulphate of iron, gr. ss. to gr. ii., with sugar, and given in ginger wine (the latter may be obtained of McDewell and Adams, Boylston Street), is a very useful preparation. If there is a tendency to constipation following the diarrhœa, iron in the form of the tartrate of potash and iron is preferable.

A point which must not be overlooked in these cases is attention to the action of the skin. In all abdominal derangements in children the cutaneous secretion is apt to be suppressed early, and the skin soon becomes dry, rough, and harsh; when this is found to be the case the child should be bathed every evening with hot water and be then freely anointed with warm olive oil. By this means the suppleness of the skin is soon restored. Warm clothing should be worn and a flannel swathe around the abdomen to serve as a protection to the belly.

SPINAL MENINGEAL HÆMORRHAGE.[1]

BY S. G. WEBBER, M. D., BOSTON.

Spinal meningeal hæmorrhage is rare, and the cases in which the diagnosis has been confirmed by an autopsy are comparatively few. There are in many cases such a variety and so much confusion in the symptoms that a diagnosis seems very difficult. The reason for this may be found in part in the combination of true spinal symptoms with symptoms referable to meningeal disturbance, and when the hæmorrhage is in the lower portion of the cord these symptoms may all be present in the legs.

Bear in mind, then, that there are two classes of symptoms which must be separated: those due to pressure upon the cord and changes in its structure; those due to irritation of the membranes and nerve roots by the foreign body, the clot.

The symptoms arising from implication of the cord are primarily those due to pressure, then those due to secondary changes. There is more or less complete paraplegia, and exaltation of reflex action. Pain in the back at the seat of the pressure is not constant; there may be deviations from normal sensation. The pressure may cause secondary changes in the cord, and then the paralysis becomes more or less permanent, and sensation may not be restored; so also the reflex action may continue exaggerated, and there may be contractions or the limb tremble. If myelitis follows the pressure the exalted reflex action may disappear, the contractions relax, the paralysis remain, and atrophy set in.

The symptoms due to the irritation of the blood-clot and pressure upon the nerve-roots are so united that it is scarcely worth while to try to separate them. These are pains radiating in the course of the nerves and others referred to the periphery, tingling and pricking sensations, more or less anæsthesia, with possibly tenderness to touch of the parts to which the nerves are distributed; spasmodic contractions, generally clonic, sometimes tonic; subsequently there may be atrophy and diminished electric excitability. Disturbed vaso-motor action may be found either below or at the level of the hæmorrhage.

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[1] Read before the Suffolk District Medical Society.

In every case of traumatic origin the possibility of additional injury to the cord must be borne in mind, and this may modify the course of the case.

At the commencement there would be no febrile symptoms; subsequent meningitis is not common.

The two varieties of symptoms can be most readily separated when the hæmorrhage is in the lower cervical region. When above this, death would probably follow quickly unless the amount was very small.

The following case illustrates the clinical features of meningeal hæmorrhage in the lower cervical region.

The patient was a young man, referred to me by Dr. Vaughan, of Cambridge. He was a very strong and athletic young man up to four and a half years previous to the time at which I saw him. He went a-fishing and stood in the water above his knees for two or three hours, and was very tired; the next day he passed an examination at school between four and five P. M. He was much excited; the examination was severe; he was warm and flushed in the face. Between five and six P. M., he went in swimming. He dove from a bank one and a half feet high, and came up with a headache; this went off, and he dove two or three times without any ill effects. He then dove again, and when under water was immediately paralyzed in both arms and both legs. He thinks he did not hit his head on the bottom, though that was his first impression. May have wrenched his neck. When the paralysis occurred a shudder passed over him such as is seen to pass over cattle when killed. He did not lose consciousness at any time. He was soon rescued by his companions and laid on the bank. Up to that time he had no pain. A friend took hold of his hand, on which was a red spot which was very tender and painful. He was carried to his room in a carriage; while riding he could not hold his head up; there was no nausea, and no pain in his back during the whole of his sickness. In a short time he could draw up his left leg a little. After about six hours he had severe pain, amounting to agony, in his arms and hands, with a throbbing sensation. After being turned on his face he fell asleep.

The next day he was raised up, and thereupon had nausea. In his hands was a sensation as if asleep, and the weight of a fly on the hands caused pain. He could draw the left leg up quite well, and could move the left arm a little; the right arm and leg could not be moved. There was no pain or tingling in the legs.

He gradually improved, until after two weeks he could stand up, and could walk, but was drawn over, walked unsteadily, staggered, and the right leg moved spasmodically. The legs twitched while he was in bed, especially the right; there was also spasmodic action in the arms. The bowels were confined, and the urine retained for a few days after the injury.

During the whole course of his sickness his mind was clear, and he read much, even immediately after, the injury. The right eyelid drooped, and the reading caused trouble in his head, otherwise there were no cerebral symptoms.

He improved slowly, the left side gaining the more rapidly, and when seen about four and a half years after, the motion of the left arm and hand was nearly or quite normal, that of the right hand was much restricted in the fingers, but the arm moved freely. The left leg and foot moved much more freely than the right. The legs trembled and twitched, the hands and arms twitched, but did not tremble. The reflex action of the legs was exaggerated, but not excessively so. The sensation was better in the right hand and arm and right foot for heat and the touch, but two points were felt at a distance of three eighths or four eighths inches in both palms, and on the feet there was no difference in the two sides, but the distance was greater than usual. At times the arms and legs have the pricking sensation as if asleep. Touching the left foot caused this sensation.

The temperature in the axilla was 98° on the right, 98.5° on the left; temperature of room, 71°. The right hand and foot were sometimes darker colored than the left.

The circumference of forearm, nine and three fourths inches on right, ten and one eighth inches on left; of arm, four inches above external condyle, nine and seven eighths inches on right, ten and three eighths inches on left; of chest, sixteen and a half inches on right, eighteen inches on left.

The reaction to both galvanic and faradic current was diminished in the muscles which move the fingers on the right as compared with those on the left.

There was no spontaneous pain, and no motion nor twisting of the body caused pain, even in gymnastic exercises. There was some difficulty in micturition, it being a considerable time before the water commenced to flow. Erection was less frequent and less strong than formerly.

This is a case wherein the diagnosis is comparatively easy; there no need to dwell longer upon a differentiation of the symptoms.

It may be interesting to compare with this a case in which the hæmorrhage occurred below the origin of the brachial plexus. The symptoms are less well marked. A young man was thrown from his wagon; he could not remember how he struck the ground. He crawled to a neighboring house and was carried home. His legs were partially paralyzed; he could stand, but could not walk without help. The next day he could not stand, but could move his legs in bed; he shook and shivered, even after warmth was applied had a rigor. There was slight spasmodic action of the legs during the first two weeks; also dyspnœa, and his chest seemed bound up.

Immediately after the accident he had severe pain in his back, described as though some one had buried a piece of steel in it; there was also a spot in the lumbar region, tender on pressure. He had a disagreeable sensation which he could not describe, passing from hips to knees. From the time he began to stand he had a sensation of pricking as if the parts were asleep, most marked in his right leg.

He improved slowly, beginning to walk after a week or so; it was six weeks before he could sit in a chair and raise one leg, and yet longer before he could raise both legs at once. There was much emaciation, and the calves of his legs were flabby; they did not feel natural like his hands. Legs and feet were cold; the sense of constriction in his chest continued. There was no constipation, no disturbance of micturition. Sexual desire was gone for four or five months, and during this time there was no emission; this appetite remained less than natural. There were no special cerebral symptoms,

I saw him nearly a year after the accident at the request of Dr. W. S. Brown. When seen, he could walk without help, but with his feet wide apart. On rising from the chair he first took hold of the arms of the chair, then of his hips, and rose with effort. With his eyes shut he staggered in walking and could not stand with his feet near together. He could distinguish two points only when they were more than two inches apart. The reaction of the muscles of the leg and thigh to the faradic current was good. The glutæi were not tested. Pulse 61, respiration 19. There was a slight incoördination of the left hand. He said he could not carry a pail of water in his left hand as its weight seemed to pull him round.

There was probably in this case a complication of lesions, meningeal hæmorrhage, and also concussion or other injury of the cord. The chill, the gradual increase in the severity of the symptoms, the severe pain in the back immediately after the accident, the partial loss of motor power and of sensation, and the early and gradual improvement, the spasmodic action, the pain radiating to the knees, the pricking of the feet as if asleep, are such symptoms as would be found in hæmorrhage; the dyspnœa and sense of constriction, the persistence of the weakness of the muscles, and possibly some of the other symptoms, may have been due to direct injury of the cord itself.

RECENT PROGRESS IN MEDICAL CHEMISTRY.[1]

BY E. S. WOOD, M. D.

Urinary Coloring Matters Continued. — Hoppe-Seyler[2] has succeeded in transforming artificially the red blood pigment hæmoglobin into the urinary pigment urobilin by means of reducing agents. By causing hæmoglobin to be acted upon by means of tin and hydrochloric acid, urobilin is produced.

This seems to show that the urobilin found in normal fæces and urine is one of the final decomposition products of the blood pigment, and since it can also be formed from the bile pigments bilirubin and biliverdin in the intestine and artificially, it is probable that these are intermediate steps in the process of reduction.

F. Baumstark has isolated two new and well-characterized pigments from the urine of a patient with leprosy. The urine did not differ much from normal urine except in regard to the color. The color, when first received, was a deep, dark red, like that of Bordeaux wine; later it changed to a brownish red, and toward death to a dark brown, nearly black. Neither biliary pigments nor acids were present. There was no albumen, blood globules could not be detected in the sediment, and hæmin crystals could not be obtained, thus proving the absence of blood in the urine.

To isolate the pigments the urine was subjected to dialysis, a yellowish fluid like normal urine in appearance passing through the parchment, and a brownish, slimy mass remaining on the dialyser. This mass was dissolved in sodic hydrate, and one of the pigments precipitated from this solution by the addition of an acid in the form of a brown, flocculent precipitate, a beautiful garnet-red fluid remaining.

During the twelve days on which this urine could be obtained, about two grammes of these pigments were isolated. They are named by the author urorubrohæmatin and urofuscohæmatin, the former being the one remaining in solution in the acid fluid after the latter had been precipitated. At first there was a large amount of the former and but little of the latter, while toward death the amount of the latter was largely increased.

Urorubrohæmatin. — Analysis gave as the formula $C_{68}(H_{62}O_4)N_8Fe_2O_{10} + 16H_2O$, or hæmatin in which eight of the atoms of hydrogen have been replaced by four of oxygen. This substance is a bluish black powder, insoluble in alcohol, ether, water, chloroform, and a solution of common salt. It is soluble in the alkalies, giving a brownish red solution when concentrated, and a garnet red when dilute. From the alkaline solution it is not precipitated by acids, but the color changes to a bluish red. From the acid solution it is precipitated in brownish flocks by dialysis. It is soluble in a solution of common salt to which hydrochloric acid has been added. Acid solutions, when examined with the spectroscope, show a narrow absorption band before the line *D*, and a broad one behind *D*. Its spectrum is, therefore, like that of oxyhæmoglobin, except that it is farther to the left. Alkaline solutions show a band to the right of *D*, one near *E*, a broad one to the right of *F*, and one to the right of *G*.

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[1] Concluded from page 15.

[2] Berichte der deutschen chemischen Gesellschaft, 1874, No. 13.

[3] Berichte der deutschen chemischen Gesellschaft, 1874, No. 13.

Urofuscohæmatin. — Analysis gave as the formula for this pigment $C_{68}H_{70}N_8(H_4)O_{10} + 16H_2O$, or hæmatin in which the two atoms of iron have been replaced by four of hydrogen. This pigment was a black, pitch-like substance, which was insoluble in water, alcohol, ether, chloroform, acids, and a pure solution of common salt, or one to which hydrochloric acid had been added. It is soluble in the alkalies, giving a brown solution, from which acids precipitate it in brown flocks. It is less characteristic optically than the urorubrohæmatin, the alkaline solutions giving a faint band between the lines *D* and *E*, and one before *F*, very difficult to detect; at the same time the blue and violet are strongly absorbed, so that it is difficult, even on careful dilution, to see a clear spectrum. Both of these pigments are very closely allied to hæmatin.

TOXICOLOGY.

Aniline Colors. — The various coloring matters prepared from coal tar have of late been used extensively in coloring articles of food and drink, such as confectionery, jellies, syrups, and wines. Many of them contain, either in chemical combination or as impurities, some of the poisonous metals. Analyses of these made by J. Brun[1] showed that they may be contaminated with salts of mercury, alum, lead, and arsenic. They have not only caused injury when applied to the skin in the form of a dye upon clothing, but also have proved injurious, and even fatal, when ingested by children in the form of confectionery colored with fuchsine. The injury is caused almost always by the arsenic which the pigments contain. In one fatal case, the amount of arsenic ingested could not have been more than 0.16 milligrammes (about 0.04 grains). Many of these pigments, if thoroughly purified, would be innocuous, but such purification would render the price of the colors so high that they could not be used for coloring cheap articles.

M. Chevallier[2] has examined three of these coloring matters sold under the names of safranine, phosphine, and orséyne. The first contained no arsenic, the second a considerable, and the third a large amount of arsenic.

When syrups, such as raspberry, strawberry, etc., are colored artificially by means of these aniline colors, chlorine water both decolorizes them and causes a flocculent precipitate, while it only decolorizes the unadulterated syrups. Potassic hydrate decolorizes syrups prepared with fuchsine, but gives a dirty green with the natural syrups.

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[1] Journal de Chim. Méd., March, 1875.

[2] Annales d'Hygiène, April, 1874.

In wines colored with fuchsine potassic hydrate produces no change, while in the unadulterated wines it changes the color to a brown.

Pure coralline was formerly supposed to be the cause of the skin eruptions produced by wearing clothing colored with it,[1] but more recently this has been proved to be due to the arsenic which the coralline contained as an impurity, and that pure coralline is perfectly harmless. Arsenic is sometimes derived from the mordant (arseniate of aluminium) used in fixing the coralline upon the cloth.

M. Mayet[2] reports a case of wall-paper poisoning, in which the paper causing the trouble was colored with coralline. Analysis showed that it contained a considerable quantity of arsenic. In order to detect the arsenic in these red wall papers, the method by means of ammonia and nitrate of silver is not sufficient, since the silver precipitate is colored red by the aniline, and the color of the arsenite or arseniate of silver is obscured. The organic matter must be destroyed by sulphuric acid and heat, the residue extracted with dilute acid which is introduced into a Marsh's apparatus, and Marsh's test applied. This method is also best adapted for detecting the arsenic in artificially colored wines, syrups, confectionery, and ices.

Strychnia. — F. L. Sonnenschein[3] has succeeded in establishing a close relationship between the two alkaloids of the nux vomica by the artificial conversion of brucia into strychnia. If brucia be treated with four or five times its weight of dilute nitric acid, and the mixture gently warmed, effervescence takes place, and a reddish-colored fluid remains. If the red fluid after concentration be shaken with ether, and the ether after being decanted is evaporated, there remains a red pigment, a yellow resin, and a crystalline base, which can be purified by dissolving in an acid and recrystallizing. This base is strychnia.

F. A. Falck[4] has investigated the susceptibility of different animals to the action of strychnia. His results are best given in the following tabular form. By this it will be seen that, if the amounts required to produce death are calculated for equal weights of the animal operated on, the warm-blooded animals are much more susceptible to the action of strychnia than the cold-blooded ones. In experimenting with different animals of the same species, it was found that the fatal dose was proportional to the weight of the animal. The bladder of the dog did not seem to absorb strychnia at all, no effect being produced when the alkaloid remained in the bladder several hours. In all of the experiments the strychnia was used in the form of nitrate of strychnia.

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[1] Tardieu et Roussin. Annales d'Hygiène, 1869, xxxi., page 257.

[2] Annales d'Hygiène, July, 1874.

[3] Berichte der deutschen chemischen Gesellschaft, 1875, No. 4.

[4] Vierteljahrsschrift für gerichtliche Medicin, 1874, April and July.

The amounts in the following table are reckoned in milligrammes per one kilogramme weight of the animal operated on : —

Animal.	Method of Introduction.	Highest Non-Fatal Dose.	Lowest Fatal Dose.
White fish	Subcutaneous injection	6.25	12.5
Frog	“ “	2.	2.1
Snake	“ “	–	23.1
Dove	Crop	10.	15.
Fowl	“	50.	50.
“	Subcutaneous injection	1.	2.
Hedgehog	“ “	–	2.97
Rabbit	“ “	.5	.6
Cat	“ “	–	.75
Dog	“ “	–	.75
“	Stomach	2.	3.9
“	Rectum	–	2.1
“	Bladder	5.5	–

COOK ON FUNGI.[1]

There has long been wanted a book which should instruct the physician in a general and yet thorough way concerning the nature and growth of the forms of life, about which he has been asked in these later days to believe so much without the exercise of his judgment. That his credulity has been so generally imposed upon has been largely the result of the self-deception of his self-called instructors. In no branch of science connected with medicine has the ear of the profession been so easily gained and long held by loose observers and shallow writers as in mycology, for they claimed to have found the solution of the mysteries of many diseases for which it had been so long intently open. Unfortunately their conclusions were as false as their science was weak, but their delusions and ignorance have been often exposed, and might be universally understood, were those engaged in spreading information always capable of distinguishing between true and sham work.

This volume, which forms the fifteenth of the International Scientific Series, a collection of monographs prepared by most eminent men of science, is written by the well-known and enthusiastic author of the Handbook of British Fungi, and is a thoroughly good book. As will be seen by the table of contents, it is very general in its scope, and, although more particular in details in some parts than the ordinary reader may require, it is in no way less adapted on this account to the elementary instruction of the physician. It describes in very simple language the nature of fungi, and their modes of development and growth. The chapters on Classification and Polymorphism are very important, and should be read by all who have been misled by such writers as Salisbury and Hallier. The universal dissemination of spores and their relations to the question of spontaneous generation is briefly discussed. In the chapter on the

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[1] *Fungi : Their Nature and Uses.* By M. C. Cooke, M. A., LL. D. Edited by the Rev. M. J. Berkeley, M. A., F. L. S. New York : D. Appleton & Co. 1875. Pp. 312.

Uses of Fungi, the author describes in the most appetizing terms the edible varieties, and mentions the many species which occur in the United States. The late Dr. Curtis, of North Carolina, enumerated all of these in his own State, and wrote to Rev. M. J. Berkeley that "hill and plain, mountain and valley, woods, fields and pastures, swarm with a profusion of good, nutritious fungi, which are allowed to decay where they spring up, because people do not know how, or are afraid to use them. By those of us who know their use, their value was appreciated as never before during the late war, when other food, especially meats, was scarce and dear. Then such persons as I have heard express a preference for mushrooms over meat had generally no need to lack grateful food, as it was easily had for the gathering, and within easy distance of their homes, if living in the country."

The influences and effects of fungi are summed up in the following form:

"Fungi exert a deleterious influence —

On *Man*,
  When eaten inadvertently.
  By the destruction of his legitimate food.
  In producing or aggravating skin diseases.
On *Animals*,
  By deteriorating or diminishing their food supplies.
  By establishing themselves as parasites on some species.
On *Plants*,
  By hastening the decay of timber.
  By establishing themselves as parasites.
  By impregnating the soil.

"But it is not proved that they produce epidemic diseases in man or animals, or that the dissemination of their multitudinous spores in the atmosphere has any appreciable influence on the health of the human race. Hence, their association with cholera, diarrhœa, measles, scarlatina, and the manifold ills that flesh is heir to, as producing or aggravating causes, must, in the present state of our knowledge and experience, be deemed apocryphal."

In describing their toxicological relations to man, the author is able to give no easy and general rule by which the edible may be distinguished from the poisonous fungi. Such knowledge is gained only by the study of specific differences, but is not difficult of acquisition. It would appear, however, that some of the poisonous species may be eaten with impunity, if treated with a large amount of salt and vinegar before boiling. A warning is also given that even the cultivated mushroom may cause trouble, if kept long enough to undergo the chemical changes to which fungi are so rapidly prone.

Of the forms which are the cause of the so-called parasitic affections of the human integument and its appendages, the author attempts no special description, referring his readers to the well-known works of dermatologists for information.

Interesting chapters on the cultivation and geographical distribution of fungi close the volume, from which it appears that the mycological flora of North America greatly resembles that of Europe; but that with few exceptions "a great portion of our vast country is mycologically unknown." The book is well printed and is illustrated by 109 wood-cuts. J. C. W.

LOOMIS ON THE RESPIRATORY ORGANS, HEART, AND KIDNEYS.[1]

The book is published from phonographic reports of lectures delivered in the medical department of the University of New York. In the present form they will be much esteemed by the students of the university, and of interest to the profession, though they are not sufficiently exhaustive to take the place of monographs, on which the physician of the present day is becoming more and more dependent.

Professor Loomis is an extremist in modern pathological theories, and evidently has very decided opinions in regard to all subjects touched upon. His positive way of stating things, while exposing him to scientific criticism, must make him a very attractive teacher, and the student learns so much more from such a teacher than from a hesitating, skeptical one, that he can afford to unlearn, or learn anew a few things after graduation, for the sake of the general principles which have been firmly impressed upon his mind.

WALTON ON DISEASES OF THE EYE.[2]

The former edition of this work comprised only the surgical diseases of the eye; the present edition has been largely re-written, contains many additions, and aims to be a complete treatise on the subject of eye diseases. As would naturally be expected under such circumstances, the surgical affections, especially those which come more correctly under the head of general surgery, occupy proportionally a larger space than is usually given to them in similar treatises. But the increased space thus devoted is taken up mostly by the recital of cases, not always very instructive, many of which are borrowed from others and have been already published elsewhere.

The book opens with an anatomical introduction by Mr. Morton, which had much better been omitted. It is almost inconceivable how so many errors could have been compressed into twelve pages of rather small print; and the four full pages of anatomical illustrations are as bad as, and do not always even agree with, the text. The reader is told that "this anatomical description of the eyeball embodies new facts." Some of these "new facts" bear on the mechanism of accommodation. The change of shape in the lens is said to be produced by direct pressure from the ciliary processes and iris, an old theory which has been sufficiently disproved. It should be said here, however, that in the chapter on accommodation and its anomalies, this theory is not adopted.

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[1] *Lectures on Diseases of the Respiratory Organs, Heart, and Kidneys.* By Alfred L. Loomis, M. D., Professor of Pathological and Practical Medicine in the University of the City of New York, etc., etc. New York: Wm. Wood & Co. 550 pp. octavo

[2] *A Practical Treatise on the Diseases of the Eye.* By Haynes Walton, F. R. C. S., etc. Third Edition. Pp. 1188. Philadelphia: Lindsay & Blakiston. 1875.

The author's views on many points vary much from those now generally held by ophthalmologists. He denies flatly that inflammation ever begins in the iris, or is chiefly confined to it; and in the treatment of iritis gives a very subordinate rôle to atropine, though he always uses it from the first, because it gives him correct information of the subsidence of inflammation by producing dilatation of the pupil. In corneitis, in which the value of atropine is generally regarded as only less than in iritis, he has been able to discover only ill effects from its use. Cupping of the disk in glaucoma he looks upon as the result of neuritis and subsequent atrophy, not of increased intra-ocular pressure.

Flap extraction is the operation preferred for senile cataract and is described with its complications at length. When, however, couching (now practically obsolete) is considered worthy to have several pages given to it, the account of Graefe's operation should not have been borrowed from an article published ten years ago, in which the traction-hook, entirely abandoned two years later, occupied a prominent place; nor is it entirely fair, either to the reader or their originators, to dispose of all other modern operations for extraction in half a dozen lines as the "descriptions of enthusiasts."

The book as a whole is decidedly unsatisfactory, and does not fairly represent the present condition of ophthalmology. O. F. W.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

EDWARD WIGGLESWORTH, JR., M. D., SECRETARY.

Case of Measles. — DR. VOGEL reported the case. T. B., an anæmic girl of five years, living in a damp basement with little light and less ventilation, presented, December 9, 1874, the appearances characterizing the prodromal stage of benign measles, general malaise, cough, sneezing, sore eyes, etc.

December 10th. An eruption upon the face, which by the next day was pinkish and confluent about the eyes, nose, mouth, and wrists, scanty on the body, and absent from the legs. Tongue moist and slightly coated, fever, and cough mild. Seven days after the beginning of the prodromal stage, branny desquamation, disappearance of disease symptoms, and child up and about, though very feeble and without appetite.

December 14th. Brother and sister of the foregoing attacked last night with usual prodromal symptoms.

December 18th. The eruption has appeared in both, darker and more confluent than in the first case, with higher fever and more severe cough, and a very rapid, easily compressible pulse.

December 19th. The boy, aged seven years, has now a barking cough of high pitch, complete hoarseness, and prolonged, labored inspiration. The eruption pale. Pharynx dark red, left submaxillary gland swollen, pulse rapid. The girl, aged ten, stupid and drowsy; rash well out, pulse rapid, breathing easy, pharynx red, and both submaxillary glands swollen.

December 20th. Boy died last night from "membranous croup," as I was told, another physician having been called in. The girl almost comatose. No exanthem visible, submaxillary glands swollen in great packs, sordes on lips, mucus flowing from the nose; tongue dry, thickly coated, red at tip; fauces and tonsils much congested, and a white patch the size of a half-dime on the left velum between the tonsil and uvula; pulse over 120; cough harassing, with some dry ronchi. Rapidly recovered under treatment of quinine, chlorate of potash, and milk punch.

December 23d. Another sister, aged three and a half, was taken ill, and December 24th, T. B., the one first seized, was *re* attacked. Both had repeated vomiting, sore eyes, discharge from the nose, and cough. The former child went through a very severe attack of uncomplicated measles, with very copious eruption, confluent upon the face; she had a harassing cough, high fever, drowsiness, and occasional delirium, and made a slow recovery. T. B.'s case presented the following symptoms: —

December 25th. Drowsy, moaning, feet livid and rather œdematous. If disturbed she assumes an anxious and pained expression, tosses her arms, and rolls about. If aroused she cries, and complains of pain in the left knee and hip, which show, however, nothing abnormal. Pulse 120, and small. Temperature 181.3°. Eyes much injected. Tongue slowly protruded without trembling, thickly coated, but with no elongation of its papillæ. A few râles and ronchi in the chest. Bowels constipated. Abdomen swollen and tender. Calomel and castor oil ordered, with cold applications to the head.

December 26th. Worse. One offensive dejection; drowsy by day and restless by night, moaning, tossing about, and screaming at intervals. Complains still of pain in the tender and distended abdomen.

December 27th. Same state, more marked; pulse 136, very small; refuses nourishment.

December 28th. Constant screaming all night. In the morning profound stupor, face congested and slightly cyanotic, skin dry, but not very hot. Temperature in the axilla 101.5°. Pulse 140. Screams when roused.

December 29th. Has taken only a little brandy and water. Night, better, no screaming. Copious eruption, like her sister's, upon face and hands, becoming confluent by evening. Less on body and arms, and in crescentic patches. It had a dark raspberry color, which became more bluish towards the end, was well defined, and slightly raised. Pulse 144, and irregular. Temperature 102°. Not much pain, slight cough, and a few râles in chest.

December 30th. Patient comatose, pulse 160, respiration irregular and labored, skin cool and rather moist; rash bluish. At 6 P. M. coma profound, eruption gone, skin livid, damp, and cool, pulse uncountable, and stertorous breathing. Died six hours afterwards. No autopsy allowed.

This series of cases is interesting as showing the manner in which a highly diffusible poison may become intensified through accumulation in ill-ventilated rooms, thus explaining why epidemics of measles are worse in cold weather. Also as showing the rare phenomena of the recurrence of measles in the same individual. Burserius, Robedieu, Home, Baillie, Rayer, and Holland have seen instances of a second attack. Aitken, Rosenstein, Watson, Niemeyer, and

Graves, consider a single attack as affording almost complete protection. Cazenave admits a few well-attested cases of recurrence. Hebra considers second attacks as rare, though not extremely so. So Austin Flint, who quotes a case of recurrence observed by Dr. Minot in Boston. Steiner has observed recurrence after eight weeks. Second attacks are also reported by Togetty, Schack, De Haen, Meja, Genovevi, Dubosque, Trujawsky, and Willan.

The second attack of T. B. is a good picture of the typhoid variety of measles, in which the poison attacks especially the nerve-centres, rapidly and completely annihilating its functions. The text-books, however, do not mention the violent screaming, which, from the fixed locations complained of, seems rather referable to pain than to any perverted action of the brain. Tenderness of the abdomen is usual in such cases, but not the pain in the joints, which might be rheumatoid, although the fever was not high enough at the time. The subsidence of the expressions of pain at the time of the exanthem might have been due to the profound insensibility of the last stage, or might point to peritoneal congestion, relieved by the intense hyperæmia of the skin.

Dr. Chadwick alluded to the possibility of the existence of a hereditary predisposition to one or more attacks of the exanthemata, and cited examples of repeated attacks in different members of the same family.

Drs. Green, Stedman, Tarbell, Arnold and **Webber**, had seen instances of second attacks of measles, although some of these cases had occurred before the distinction between measles and rubeola [rötheln] was generally recognized.

Dr. Ellis thought, speaking of the period of incubation, that the large number of cases existing during an epidemic, with consequent frequent and repeated exposure, would interfere with the recognition of the exact moment of infection, and that laws could only be deduced from the observation of isolated cases.

Dr. **Wigglesworth** mentioned a case referred to by Panum, where measles broke out in a house which had had no intercourse with the rest of the world, except that a physician had spent the night there a fortnight before, he having come from an infected district four miles away, and been compelled, moreover, to travel in an open boat in stormy, rainy weather.

Capillary Bronchitis in Adults; the Frequency of its Complication with Changes in the Air-Vesicles, and its Relation to Catarrhal Pneumonia. — **Dr. Ellis** read some extracts from a paper with the above title, soon to be published, showing that capillary bronchitis and catarrhal pneumonia cannot always be distinguished clinically. Dr. Ellis believed that the cases were generally mixed; that pure cases were rare; that the whole chest should always be examined; that affections of the air-vesicles giving rise to consolidation were more common than is generally thought, and that when they are the first affected we may have fine, dry, crepitant râles, and the subcrepitant coming later. The important point is to recognize the clinical condition, and not to confound stages with separate diseases.

At the request of Dr. Ellis, **Dr. Fitz**, who had made an examination of the lungs after death in the case of the third patient mentioned by Dr. Ellis, reported that in some places the air-cells contained pigment-corpuscles and granular matter suggesting coagulated albumen ; furthermore, cells of epithelium and pus corpuscles ; and elsewhere, alveoli filled entirely with pus corpuscles, or with cheesy material, and frequently with thickened walls with spindle-shaped elements, indicating the presence of the various conditions occurring in catarrhal pneumonia as well as those present in interstitial pneumonia. Again, alveoli were found containing coagulated fibrin, round cells, and blood corpuscles, such as are found in croupous pneumonia. In a fresh condition, parts of the consolidated portion were gray and translucent, and studded with yellow points composed of granular corpuscles. The relation between these cases and tuberculosis is interesting, and the sections examined presented no tubercles, and yet the cheesy conditions were present, such as have been recently reasserted to be dependent upon tubercular inflammation.

Dr. Knight said that according to Niemeyer, catarrhal pneumonia is always due to capillary bronchitis. Oppolzer, and the German school generally, hold these ideas in opposition to those of Flint and others in regard to tubercle. Text-books are apt to confound acute and chronic catarrhal pneumonia and bronchitis. Solidification may occur, and even end in degeneration, and still be the result of a bronchitis.

Dr. Fitz spoke of Friedländer's researches disproving the statement of Buhl that the inflammatory products found in the alveoli had occurred primarily in the smaller bronchi and been thence transferred.

Dr. Knight stated that Niemeyer held that a change of more than a certain amount in the temperature alone, even without any change in the respiration or other signs, shows that the process has reached the alveoli.

Anatomical Specimens. — Dr. Porter showed a specimen of anchylosis following fracture of the ulna, and possibly of the radius ; also an anchylosis of the scapula with the humerus, following fracture from gun-shot ; this fracture was also through the anatomical neck, the rarer situation. Finally, a photograph was shown of a large tumor of the vulva removed by Dr. Parker, of Lowell, by means of the galvano-cautery. No blood was lost, but the patient died within forty-eight hours. She was forty years of age and a chronic invalid, and had shown no symptoms of insanity, though her stomach (shown by Dr. Porter), when opened, contained three large balls of hay, straw, etc., still connected, though one had passed into the duodenum.

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THE PROFESSION IN CALIFORNIA.

Our esteemed contemporary, the *Pacific Medical and Surgical Journal*, is greatly irritated by the remarks we published some weeks ago concerning the profession in San Francisco. The distress of our Pacific remonstrant is so evidently sincere, that we overlook certain rather unpacific expressions, as well as his hasty and incorrect assumption that we had no better authority than a scurrilous daily paper for our statements.

We are respectfully requested to recall our article, although it is admitted to be at least in part correct, and no clew is given us to ascertain what are the objectionable statements. Till our contemporary condescends to state in what we have injured our brothers in California, it is impossible for us to make reparation. We await this information with patience, and hope that it may prove that our course does not confirm the old law, "The greater the truth the greater the libel."

The state of affairs at all events must be peculiar; in proof of which we quote the *Pacific Journal's* account of a most extraordinary piece of journalistic enterprise: —

"Some months ago, the *News Letter*, a weekly publication issued in San Francisco, began to publish, from week to week, a list of names as 'quacks,' including a number of respectable practitioners, together with others who were most notorious charlatans. Several persons thus placarded had their names stricken from the list by paying sums of money. Other names were added, and it was announced that those who would come forward and show their diplomas should be expunged. Numbers of old and most respectable practitioners who had graduated thirty and forty years ago, some of them in schools long since defunct, the professors all in their graves, and even the records destroyed or inaccessible, were thus publicly impeached. Many had lost their diplomas by accidents of flood and fire. Others were reasonably averse to acknowledging the authority of a libelous print to arraign them in this manner. Much excitement was aroused, in and out of the profession. Certain individuals in our ranks who had personal ends to gain, fomented the movement by handing in the names of those whom they hated. It was well understood that there were professional scavengers engaged in this work — men who possessed diplomas and not honor. Not a solitary individual, however, up to this time, has dared to show his hand, or to acknowledge himself an informer. One or two instances of fraudulent claims to the degree were exposed, and this gave some plausibility to the proceeding."

The matter has been taken up by the medical societies and is now under advisement.

However disreputable the originators of this excitement may be, and however indecent their course, it is hard to see how it could have been of any importance if there were not a fair proportion of black sheep among the profession. We are quite willing, however, to reserve our judgment, and hope that our Western friends will inform us in what our remarks were unwarranted, without further vituperation.

MEDICAL NOTES.

— At a meeting of the Société de Biologie held May 29th, M. Cornil reported a case of considerable retardation of the circulation, with irregular respiration and attacks of syncope due to fatty degeneration of the heart. The patient, a man aged seventy-five, had for four years past suffered from a troublesome cough during the winter which, however, disappeared with the coming of summer. At the same time the digestive functions were impaired, there was frequent vomiting, and the patient became more and more infirm. He was not intemperate in his habits, had never suffered from rheumatism nor from any nervous affection. When first seen his pulse ranged from 25 to 30 per minute. May 23d, it numbered only 14; there seemed to be no abortive pulsation of the heart, and the beat of the pulse responded perfectly with the slowness of the cardiac contractions. About every fifteen minutes there was a feeling of oppression. The inspirations were prolonged and suspirious. The attacks of oppression terminated in a state of syncope. At its advent the face was noticed to become pale, the jaws to be contracted and distorted, the arms convulsed. This group of symptoms coincided with the circulatory disturbances. On feeling the pulse just before the attack it was noticed that it was completely wanting, as was likewise the cardiac pulsation; then the attack of syncope came on, after which the respiration and cardiac action were reëstablished. The temperature was always low; the urine never contained albumen. At the autopsy the only lesion worthy of remark was a complete fatty degeneration of the heart. All the muscular fibres were degenerated and contained numerous granulations. The brain was anæmic. To explain the digestive troubles a degeneration of the pancreas was found; a considerable number of the glandular *culs-de-sac* were filled with fatty granulations; moreover, the digestive tract throughout its entire extent was atrophied.

— Some original observations on a new disease called miners' nystagmus are reported by Charles Bell Taylor, M. D., in the *Lancet* for June 12, 1875. The writer states that for twelve years past the colliery districts neighboring to his residence have furnished him with cases which he has designated as "miners' nystagmus," from the peculiar oscillating motions of the eyeball which are characteristic of the disease, and from the fact that he has observed it occurring only in adults, and independent of other ocular defects, among the men employed in the coal-pits in his vicinity. It was formerly supposed that nystagmus was incurable, always developed itself in infancy, and was caused either by imperfect nervous perception or structural changes in the transparent media of the eye-ball. In miners' nystagmus, however, the disease is usually curable, is developed in adults and aged persons previously healthy, is not accompanied by disease of the nerve or structural change of the eyeball, and is, as a rule, to be noticed only when the patient attempts fixation, especially in a stooping position. The oscillating motions are caused by alternating contractions of the recti or oblique muscles, and in all the cases which the writer has observed have been either horizontal or rotatory. The disease persists so long as its cause continues, but a change of occupation and working in a good light are all that is necessary to effect a cure. Three cases are reported in detail as samples of nine or ten others which have come under Dr. Taylor's care.

— An account of the *post mortem* examination of the case in which inflammable gas was discharged from the stomach during life, is given by the Berlin correspondent of the *Irish Hospital Gazette* for May 15, 1875. The stomach was found to be but little distended. The pyloric orifice was imbedded in a hard tumor about the size of a walnut, and its calibre reduced to that of a crow-quill. The whole mucous membrane of the stomach was pale and anæmic, and became gradually lost in the substance of the tumor. The serous coat was everywhere thickened, this being most marked in that portion which cove the tumor, where the membrane was nearly 1 mm. thick. The microscopic examination of the tumor showed it to be a fibro-myoma. The glands of the stomach, except in the immediate neighborhood of the cardiac extremity, had disappeared. The whole thickness of the mucous membrane was occupied by innumerable small, round cells, which had completely destroyed the regularly arranged stomachic glands, and only with difficulty could a few widely-scattered, tube-shaped bodies, be recognized as such. In these miserable representatives of the glands of the stomach, ordinary epithelium could not be recognized, its place being apparently taken up by a finely-granular detritus. The man could, therefore, no longer assimilate his food, and the attempt made for some time before his death to nourish him per rectum could not, of course, satisfy for any length of time his craving for food. The presence of carburetted hydrogen in the eructations cannot be accounted for satisfactorily.

— At a meeting of the Société de Thérapeutique de Paris, as reported in *Le Lyon Médical* of May 30, 1875, M. Blondeau stated that he had employed with success the tincture of kameela against tape-worms. He gave a patient twenty-five grammes of the tincture in an infusion of sage, in three doses taken at an hour's interval, — at nine, ten, and eleven o'clock in the forenoon. At one o'clock, without having suffered the least discomfort, the patient voided a very large tape-worm, of which the head unhappily could not be found. This *tænifuge* has the advantage that it is not disagreeable to take, that it does not produce colic, and that it does not need to be associated with any purgative.

Another article in the same journal gives "a very certain and convenient method of administering kameela." Kameela is a red powder used in the dyeing of silks, and is obtained from the capsules of one of the Euphorbiaceæ. Its employment as an anthelmintic is quite common in China. The method of exhibition, as recommended, is to give the kameela in the pulp of the tamarind in the form of an electuary, according to the age of the patient and his temperament, from six to twelve grammes, given in from thirty to forty grammes of the tamarind pulp. The tart taste of this pulp is agreeable to most people and it washes the powdered kameela which, when taken alone, fills the mouth and throat with a disagreeable, gritty sensation. The consistence of the mass may be further diminished by the addition of the syrup of bitter orange peel, or by the juice of the citron. The electuary should be taken in the morning, on rising, and all at one time. Half an hour later one can breakfast and go about his business as usual. After a few inoffensive borborygmi several very liquid stools result from the medicine. Towards midday or evening with the last evacuation is a rounded mass more or less columnar, which contains one or more tæniæ. M. Du Plessis has employed this method in more than twenty cases and always met success. For the bothriocephalus the cure is always radical. Four were at one time expelled by a patient, measuring in all one hundred and twenty feet. As for the tænia solium, the head usually is expelled, but it occasionally remains with some joints in the small intestines. In such a case the dose must be repeated when there is evidence that the tænia was not completely dislodged.

— We learn by the *Medical Press and Circular* that Dr. Robert McDonnell, of Dublin, reported before the Royal Medical and Chirurgical Society of

London a case of much physiological interest, as going to show that the so-called gustatory branch of the fifth pair receive the nerves of taste from the chorda tympani. The young man, twenty-four years old, had complete paralysis of the portio dura of the seventh pair of nerves following exposure to cold and wet, the left nerve being first affected. There was no evidence of any central lesion of the brain, nor were any other cerebral nerves engaged. There was complete loss of the sense of taste in the forepart of the tongue, which the author attributed to paralysis of the chorda tympani. Tactile and thermic impressions were perceived in the forepart of the tongue quite as distinctly as in healthy persons. The defect in taste persisted longer than the motor paralysis. The secretion of saliva from the sublingual glands was not excited by irritants which produced copious flow in healthy persons.

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LETTER FROM NEW YORK.

MESSRS. EDITORS, — New York is gradually settling down into its summer inactivity, medically speaking. The attendance at the meetings of the societies has fallen off, and the papers call forth but little discussion. Every one is looking forward to, and wishing for, his summer vacation.

From about the middle of June until the middle of September, the majority of physicians have but little to do. Every one who can possibly get out of the city, goes, and there is nothing left for the physicians to do but to follow their example. The question as to who shall be president of the College of Physicians and Surgeons has at last been settled by the election of Dr. Alonzo Clark.

Affairs at the Presbyterian Hospital are still in a very unsatisfactory state. The protest against the action of the board in dropping certain members of the attending staff without a hearing, which received the signature of so many hospital physicians and surgeons, has remained unnoticed. It has been intimated by some of the trustees that they do not intend to answer it, as they take the ground that they are responsible to no one, and intend to manage the hospital as they please. It is reported that many members of the board did not know the cause of opposition to those members of the medical board who were dropped, and that those who were "running" the board declined to give any explanation, and intimated that it was best for all parties that the question should not be pressed. Some assign another reason for the action of the trustees, namely, that they felt insulted by the change in the presiding officer of the medical board, which was made at the last election. In the last annual report of the Presbyterian Hospital, I find among the rules and regulations, after those defining who shall constitute the medical board, the following: "The medical board at their first regular meeting in May of each year shall elect a president, vice-president, and secretary . . . . etc." In accordance with this rule, this was done, and now, because a majority believed in rotation in office and desired a change, some of the trustees said that it was an insult to the board, and for this reason failed to appoint four of the old staff; in other words, they claimed the right to dictate to the medical board how they shall manage their own affairs.

There is no doubt that there has been wrong on both sides, as there is apt to be in all quarrels; but that the physicians were the chief sinners is very doubtful, and even if they were, it does not take away from them the right to demand, nor from the board the duty to state, the reasons for such dismissal. The present plan of hospital management has proved a total failure, and there does not seem to be moral courage enough on the part of the trustees to come out and honestly say so.

The *Medical Record* of June 12th, in an editorial, calls for the resignation of the whole staff, or that they give some good reason for remaining. At a meeting of the trustees held a few days ago, the resignation of five of the attending staff was received, but no action was taken on them. A committee of conference, however, was appointed, to endeavor to smooth things over. I believe the vote for the resolution appointing such a committee was passed almost unanimously; what it will amount to depends, of course, on the power given to the committee, but the mere fact of such a vote being passed, shows that the board does not feel quite as strong as it did, and that it has placed itself in a false position.

If the staff insist on their demands, that the reason shall be given for the dismissal of the four gentlemen, they will probably carry their point. The question of retaining the directoress with her almost absolute power is not covered by the resolution; if she is still upheld there will be more trouble. I have heard of several physicians who have been asked to make applications for positions in the hospital by members of the board of trustees, but who have declined to have anything to do with the institution under its present plan of management. It will be difficult to fill the vacancies with those who are fitted for holding such places. There seems to be but one way to save the hospital and gain the support of the profession; and that is by the board stating the reason for their action and then closing the hospital, on paper, dismissing every one; and immediately appointing a new staff, retaining as many of the old board as they may wish, but by all means dispensing with the service of the present executive officer, as the hospital cannot be a success as long as she remains at its head. The hospital has never been full, although other institutions have had as many patients as they could accommodate. Those who have been inmates of it once refuse to go there again, being unwilling to subject themselves to the arbitrary rules of the directoress. They have great difficulty in keeping nurses. They prefer to go to other institutions for less remuneration than to remain there. All this points to something radically wrong in the management of the hospital.

There are two facts in hospital management in New York that this unfortunate difficulty at the Presbyterian Hospital illustrates, and which are really the cause of all the trouble. In the first place, the governing boards of the majority of public institutions here are too large. Thus, the board of the Presbyterian Hospital consists of thirty-two members. Such a board is unwieldy; the responsibility is divided among so many that practically there is none, and the institution is either left to run itself, or is run by a few, and these, perhaps, the very ones who know least about its wants and requirements. In the case mentioned above, there are more trustees than the average number of patients in the hospital. The majority of such a board know but little of what is really going on in the institution, and when a question comes up for consideration but few know what they are voting about.

In the second place, physicians are as a rule excluded from any representation on the board. The advice of a former member of the Board of Governors of the New York Hospital seems to be carried out to the letter. When asked for some suggestions as to the organization and management of a hospital in a neighboring city, he is reported to have given the following: "Whatever you do, keep your feet on the necks of the doctors." Perhaps the profession is in a measure responsible for this condition of affairs, in being willing to accept position under a board in which it has no representation.

Notwithstanding the exertions of the Board of Health, the mortality from small-pox is still very great. There are now over two hundred cases at the hospital on Blackwell's Island. In former epidemics the number of cases has rapidly diminished as soon as the weather became warm, but this year there seems to have been an increase, and all attempts to stamp it out have failed. The majority of cases occur among the Germans and Italians. The mortality is about twenty-five per cent. There are still a great many hæmorrhagic cases, and also those in which the eruption presents a flat, pasty appearance.

Diphtheria, which a month or so ago seemed to be diminishing, has again become quite prevalent, the number of cases reported being as great as at any time last winter.

The commissioners of charities and corrections are about to organize a school for nurses in connection with Charity Hospital. The chief of staff will be at its head. It is intended to open it on the 1st of August, and to place all the wards under the care of the school, provided a sufficient number of nurses can be obtained. The term of service is two years. Those under instruction are to live in the hospital, have their board, etc., and to receive $10 per month for the first year and $15 for the second year.

June 19, 1875.

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THE TREATMENT OF THE INSANE.

The *Boston Daily Advertiser* of May 19th contains a very just article on this subject. The text upon which it is written is good enough for the Journal to quote and use for the same purpose.

It reads: "Mrs. Berry gave several reminiscences of her life in an insane asylum which were certainly of a very startling nature, and, if true in every detail, disclosed a state of facts prevalent in some asylums horrible enough to rouse the fiercest indignation of the whole community."

I feel like saying a word on this subject. I am not connected with any asylum for the insane, and never have been. I have frequently had under observation and care those who were insane, and whom I have been the means of sending to asylums. I have heard from some of them, after their discharge, the most vivid accounts of severe treatment, and from others the pleasantest history of kind and humane treatment. These opposite accounts I have heard from different patients of the same man. The probability seems to be, that either those who said they were well treated or those who said they were badly treated, remained insane after they were set free.

I was instrumental some years since in getting a patient into the asylum at Somerville, who, according to the accounts given, vowed to inflict some punishment upon me after he should get free. For a year or two after the patient's discharge we used to meet occasionally, and a very simple and cool recognition was all that passed between us, although the meeting was generally at the patient's house. One day, on coming down stairs at the patient's house, this gentleman met me at the foot and said, "If you are not in haste, I should like to see you a moment." I followed him into his library; the door was closed, and a chair was put forward for my accommodation. After a short silence, which seemed an hour, the patient, looking me steadily in the face, and I as steadily as I could returning the gaze, broke silence with "You were the means of sending me to Somerville, I believe." With as much coolness as I could I replied, "I believe that I was." "Well," said he, "you must have heard a good deal of what I have said about you, and about Dr. Tyler; have you not?" "I have." Then he continued, "That is a matter of the past. It is of no consequence, what I have said heretofore, nor what I have done. We'll forget about that. But if you ever see signs about me again that make you think I am insane, send me back to Somerville: only let me know that you are going to do it."

The conversation ended here. We met frequently afterwards with as much freedom and good feeling as in former years. No allusion was made to what had happened so long as he lived, which was some six months longer; and he was my patient in his last sickness.

The JOURNAL, I believe, has never replied to any of the statements which have been made by patients or others from the hospitals about their management. It seems no more than proper, however, that it should say what it believes to be true upon this subject. For one, with the utmost respect for men and women who have been confined at asylums, I must say, First, that many of them, like my patient alluded to, change their opinion after being out for a while. Secondly, that many of them, who recover more early, come from the asylum with the pleasantest feelings towards their officers, and retain those feelings through life. Thirdly, that there are those who leave the asylum sufficiently recovered to be unlikely to do violence to others, but not well. Some of these, if left to themselves, will get well. Some of them will never get well because their trouble is incurable; and some of them will never get well because they have about them the ignorant or ill-natured who call themselves friends, but whose constant attempt is to keep them excited agains real friends.

M. D.

WEEKLY BULLETIN OF PREVALENT DISEASES.

THE following is a bulletin of the diseases prevalent in Massachusetts during the week ending July 3, 1875, compiled under the authority of the State Board of Health from reports received from physicians representing all sections of the State: —

In Berkshire, whooping-cough, diarrhœa, cholera morbus and typhoid are reported.

In the Connecticut Valley, rheumatism, whooping-cough, diarrhœa and scarlatina prevail. Small-pox has not yet left Easthampton. Shelburne has diphtheria.

In Worcester County, bronchitis, influenza, measles, and diarrhœa are common.

In the Northeastern section, the public health is satisfactory; scarlatina, measles, and diarrhœa prevail to a limited extent. Gloucester reports one case of small-pox.

In the Metropolitan district, scarlatina is the most prevalent disease. Diarrhœa and cholera infantum, begin to increase. Roxbury and Watertown report cases of cerebro-spinal meningitis. Boston has a single case of small-pox derived from New York.

In the Southeastern counties, rheumatism has a general prevalence. Bronchitis, diarrhœa and cholera morbus prevail to a limited extent. Vineyard Haven reports scarlatina.

F. W. DRAPER, M. D., Registrar.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING JUNE 26, 1875.

	Estimated Population.	Total Mortality for the Week.	Annual Death-rate per 1000 during Week.
New York	1,040,000	571	28
Philadelphia	775,000	324	22
Brooklyn	450,000	242	28
Boston	350,000	157	23
Providence	100,000	34	18
Worcester	50,000	19	20
Lowell	50,000	23	24
Cambridge	44,000	23	27
Fall River	45,000	15	17
Lawrence	33,000	9	14
Springfield	33,000	3	5
Lynn	28,000	8	15
Salem	26,000	4	8

NOTICE TO FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY. — The post-office address of Dr. F. W. Goss, the Recording Secretary of the Society, is Hotel Eliot, Roxbury; and that of Dr. F. W. Draper, the Treasurer, is No. 36 Worcester Street, Boston.